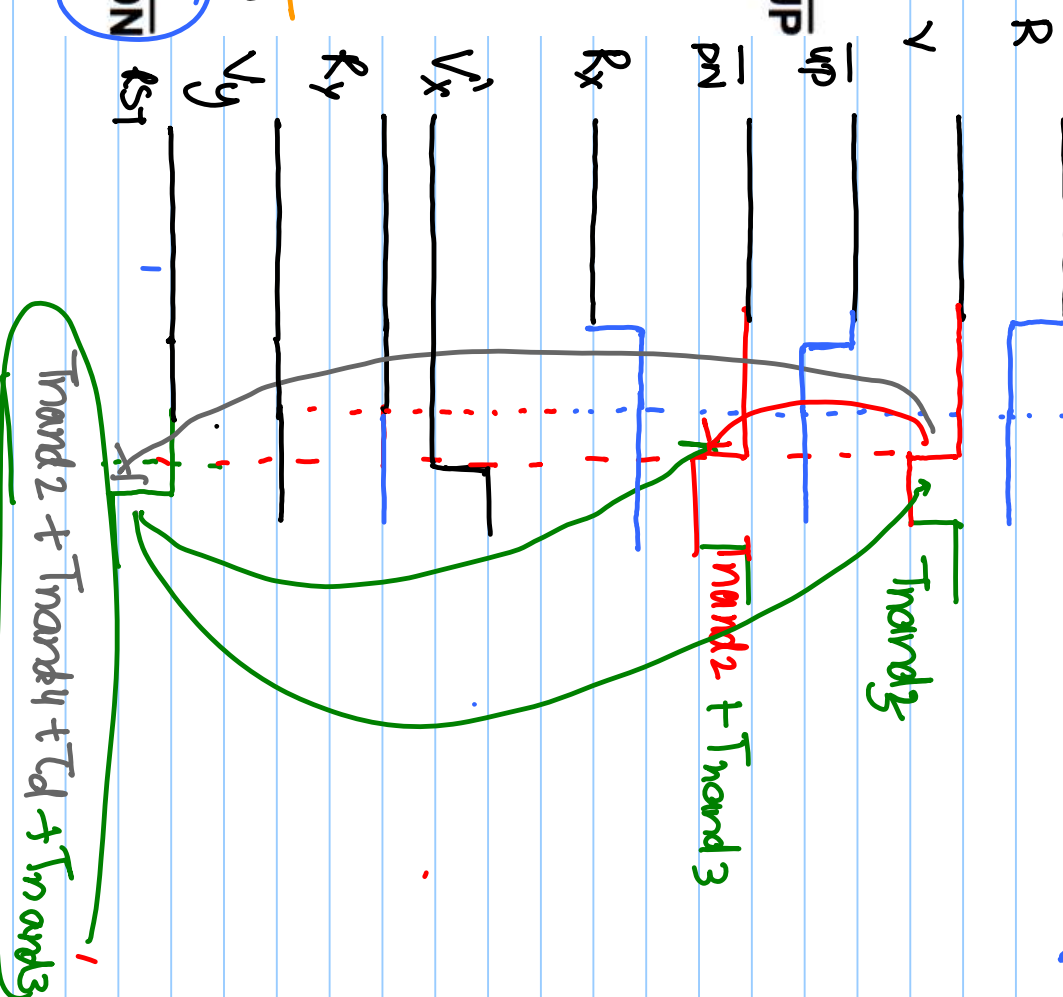
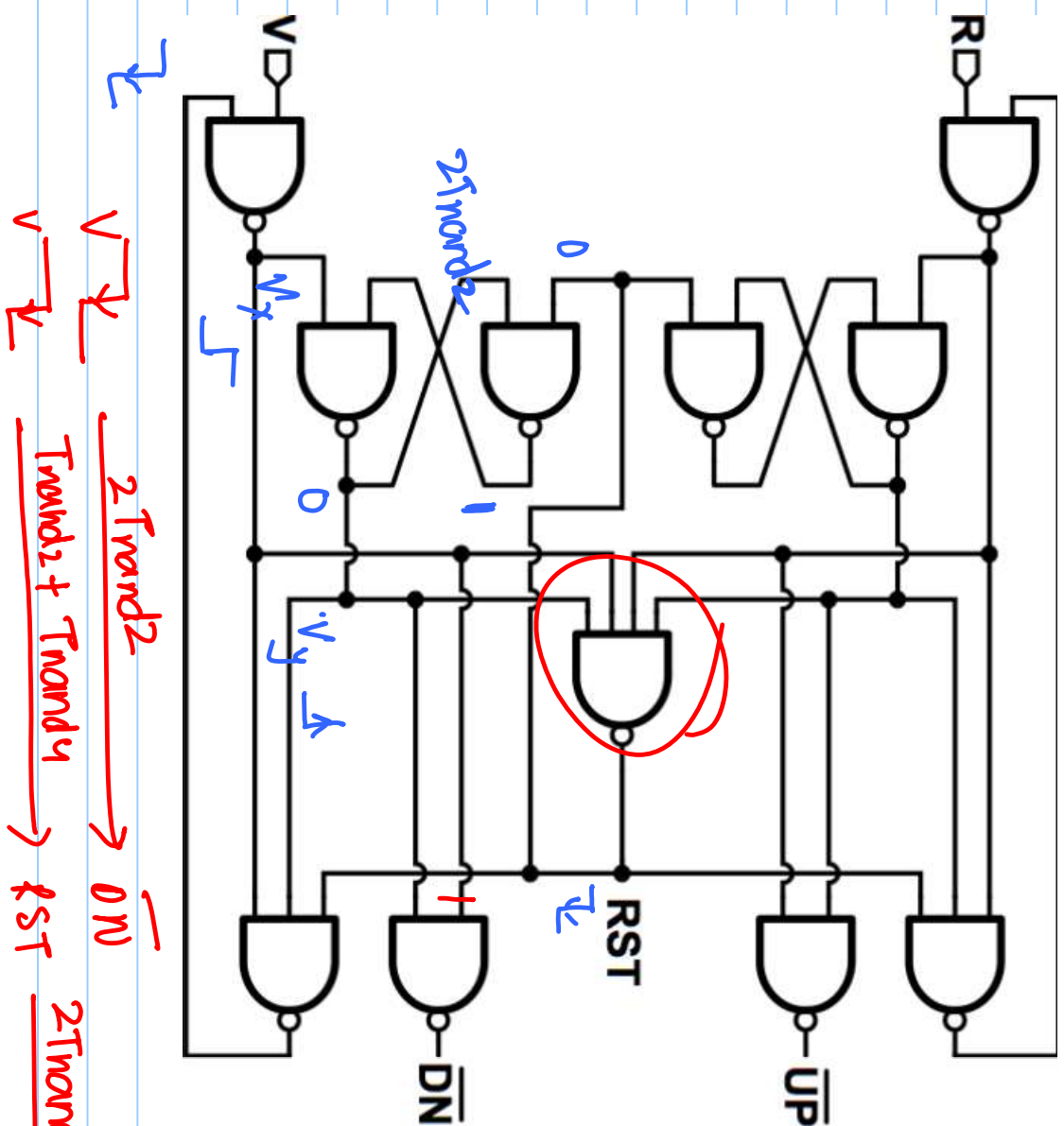


Phase Frequency Detector (PFD)





$$\overline{DN} \xrightarrow{2T_{nand2}} \overline{DN} \xrightarrow{T_{nand2} + T_{nand4}} \overline{DN}$$

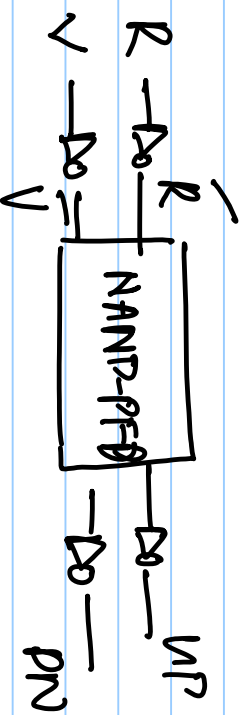
$$\overline{DN} \xrightarrow{2T_{nand2} + T_{nand4}} \overline{DN}$$

$$\overline{DN} \xrightarrow{2T_{nand2}} \overline{DN}$$

$$\overline{DN} \xrightarrow{T_{nand2}} \overline{DN}$$

$$4T_{\text{NAND2}} + T_{\text{NAND4}} - 2T_{\text{NAND2}} = 2T_{\text{NAND2}} + T_{\text{NAND4}}$$

$$2T_{\text{NAND2}} + T_{\text{NAND4}}$$



$$Y = A \cdot B$$

